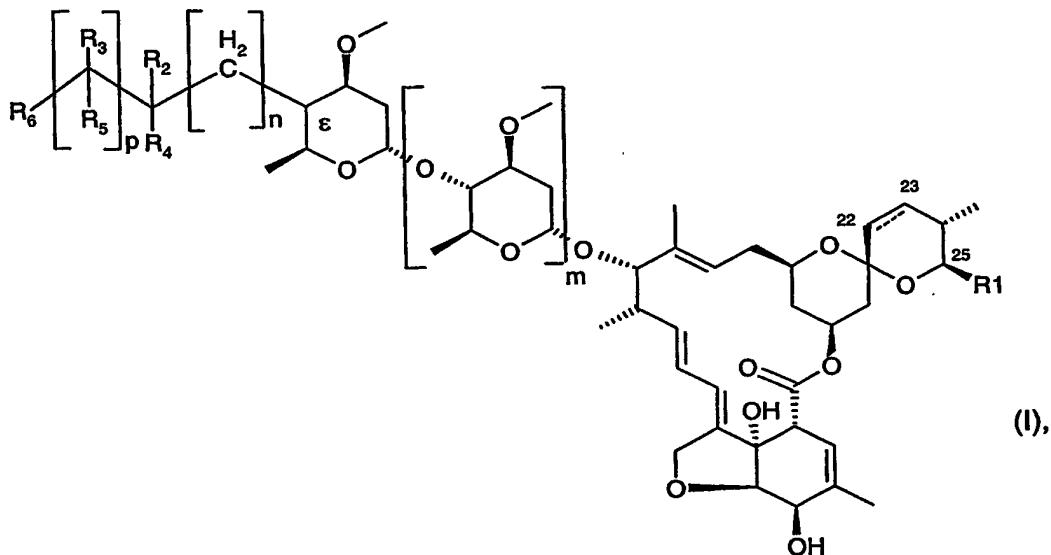


WHAT IS CLAIMED IS:

1. A compound of the formula



wherein the bond of atoms C₂₂ and C₂₃ is a single or double bond;

m is 0 or 1;

n is 0, 1 or 2;

p is 0 or 1;

R₁ is C₁-C₁₂-alkyl, C₃-C₈-cycloalkyl or C₂-C₁₂-alkenyl;

R₂ is H, C₁-C₁₂-alkyl, C₁-C₁₂-haloalkyl, C₁-C₁₂-hydroxyalkyl, OH, halogen, -N₃, SCN, NO₂, CN, C₃-C₈cycloalkyl unsubstituted or substituted by from one to three methyl groups, C₃-C₈halocycloalkyl, C₁-C₁₂alkoxy, C₁-C₆alkoxy-C₁-C₆alkyl, C₁-C₆alkoxy-C₁-C₆alkoxy, C₁-C₆alkoxy-C₁-C₆alkoxy-C₁-C₆alkyl, C₂-C₁₂alkenyl, C₂-C₁₂haloalkenyl, C₂-C₁₂haloalkenyl, C₂-C₁₂alkynyl, C₂-C₁₂haloalkynyl, C₃-C₁₂alkynyl, C₃-C₁₂haloalkynyl, -P(=O)(OC₁-C₆alkyl)₂, -Si(C₁-C₆alkyl)₃, -(CH₂)-Si(C₁-C₆alkyl)₃, -Si(OC₁-C₆alkyl)₃, -N(R₉)₂, -(CH₂)-N(R₉)₂, wherein the two substituents R₉ are independent of each other, -C(=X)-R₇, -(CH₂)-C(=X)-R₇, -O-C(=X)-R₇, -(CH₂)-O-C(=X)-R₇, -S-C(=X)-R₇, -(CH₂)-S-C(=X)-R₇, -NR₉C(=X)R₇, -(CH₂)-NR₉C(=X)R₇, -NR₉NHC(=X)-R₇, -NR₉-OR₁₀, -(CH₂)-NR₉-OR₁₀, -SR₉, -S(=O)R₁₁, -S(=O)₂R₁₁, aryl, heterocycl, aryloxy or heterocyclxyloxy; wherein the aryl, heterocycl, aryloxy and heterocyclxyloxy radicals are unsubstituted or, depending upon the possibilities of substitution at the ring, mono- to penta-substituted by substituents selected from the group

consisting of OH, halogen, CN, NO₂, SCN, -N₃, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, C₁-C₁₂haloalkyl, C₁-C₁₂alkoxy, C₁-C₁₂haloalkoxy, C₁-C₁₂alkylthio, C₁-C₁₂haloalkylthio, C₁-C₆alkoxy-C₁-C₆alkyl, C₂-C₈alkenyl, C₂-C₈alkynyl, C₂-C₁₂haloalkenyl, C₂-C₁₂haloalkenyloxy, C₂-C₁₂haloalkynyl, C₃-C₁₂alkynyoxy, C₃-C₁₂haloalkynyoxy and phenoxy;

or, when p is 1, R₂ together with R₃ is a bond;

or R₂ together with R₄ is =O or =S;

or R₂ together with R₄ form with the carbon to which they are bound a three- to seven-membered ring, which may be monocyclic or bicyclic, and may be saturated or unsaturated, and that may contain one or two hetero atoms selected from the group consisting of N, O and S, and which is either unsubstituted or independently of one another mono- to penta-substituted with substituents selected from OH, =O, SH, =S, halogen, CN, -N₃, SCN, NO₂, aryl, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, C₁-C₁₂haloalkyl, C₁-C₁₂alkoxy, C₁-C₁₂haloalkoxy, C₁-C₁₂alkylthio, C₁-C₁₂haloalkylthio, C₁-C₆alkoxy-C₁-C₆alkyl, C₂-C₈alkenyl, C₂-C₈alkynyl, C₂-C₁₂haloalkenyl, C₂-C₁₂haloalkenyloxy, C₂-C₁₂haloalkynyl, C₃-C₁₂alkynyoxy, C₃-C₁₂haloalkynyoxy, phenoxy, phenyl-C₁-C₆alkyl, -N(R₉)₂ wherein the two R₉ are independent of each other, C₁-C₆alkylsulfinyl, C₃-C₈cycloalkylsulfinyl, C₁-C₆haloalkylsulfinyl, C₃-C₈halocycloalkylsulfinyl, C₁-C₆alkylsulfonyl, C₃-C₈cycloalkylsulfonyl, C₁-C₆haloalkylsulfonyl and C₃-C₈halocycloalkylsulfonyl; or

R₂ together with R₄ is =NN(R₁₂)₂, wherein the two substituents R₉ are independent of each other;

or, when p is 0, R₂ together with R₄ and R₆ is ≡N;

or when p is 0, R₂ together with R₆ is =NOR₁₂ or =NN(R₁₂)₂, wherein the two substituents R₉ are independent of each other;

R₃ is H, C₁-C₁₂-alkyl, halogen, halo-C₁-C₂alkyl, CN, -N₃, SCN, NO₂, C₃-C₈cycloalkyl unsubstituted or substituted by from one to three methyl groups, C₃-C₈halocycloalkyl, C₁-C₁₂alkoxy, C₁-C₆alkoxy-C₁-C₆alkyl, C₁-C₆alkoxy-C₁-C₆alkoxy-C₁-C₆alkyl, C₃-C₈cycloalkoxy, C₁-C₁₂haloalkoxy, C₁-C₁₂alkylthio, C₃-C₈cycloalkylthio, C₁-C₁₂haloalkylthio, C₁-C₁₂alkylsulfinyl, C₃-C₈cycloalkylsulfinyl, C₁-C₁₂haloalkylsulfinyl, C₃-C₈halocycloalkylsulfinyl, C₁-C₁₂alkylsulfonyl, C₃-C₈cycloalkylsulfonyl, C₁-C₁₂haloalkylsulfonyl, C₃-C₈halocycloalkylsulfonyl, C₂-C₈alkenyl, C₂-C₈alkynyl, C₂-C₁₂haloalkenyl, C₂-C₁₂haloalkenyloxy, C₂-C₁₂haloalkynyl, C₃-C₁₂haloalkynyoxy, -N(R₉)₂, wherein the two substituents R₉ are independent of each other, aryl, heterocyclyl, aryloxy or heterocyclyoxy; wherein the aryl, heterocyclyl, aryloxy and hetero-

cycloxy radicals are unsubstituted or, depending upon the possibilities of substitution at the ring, mono- to penta-substituted by substituents selected from the group consisting of halogen, CN, NO₂, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, C₁-C₁₂haloalkyl, C₁-C₁₂alkoxy, C₁-C₁₂haloalkoxy, C₁-C₁₂alkylthio, C₁-C₁₂haloalkylthio, C₁-C₆alkoxy-C₁-C₆alkyl, C₂-C₈alkenyl, C₂-C₈alkynyl, C₂-C₁₂haloalkenyl, C₂-C₁₂haloalkenyloxy, C₂-C₁₂haloalkynyl and C₃-C₁₂haloalkynyl-
oxy;

or when p is 1, R₃ together with R₂ is a bond;

R₄ is H, C₁-C₁₂alkyl, C₁-C₁₂haloalkyl, C₁-C₁₂hydroxyalkyl, OH, halogen, NO₂, CN, C₃-C₈cycloalkyl unsubstituted or substituted by from one to three methyl groups, C₃-C₈halo-
cycloalkyl, C₁-C₁₂alkoxy, C₁-C₆alkoxy-C₁-C₆alkyl, C₁-C₆alkoxy-C₁-C₆alkoxy, C₁-C₆alkoxy-
C₁-C₆alkoxy-C₁-C₆alkyl, C₂-C₁₂alkenyl, C₂-C₁₂haloalkenyl, C₂-C₁₂haloalkenyloxy, C₂-C₁₂al-
kynyl, C₂-C₁₂haloalkynyl, C₃-C₁₂haloalkynyoxy, -P(=O)(OC₁-C₆alkyl)₂, -Si(C₁-C₆alkyl)₃,
-(CH₂)-Si(C₁-C₆alkyl)₃, -Si(OC₁-C₆alkyl)₃, -N(R₉)₂, -(CH₂)-N(R₉)₂, wherein the two substituents
R₉ are independent of each other, -C(=X)-R₇, -(CH₂)-C(=X)-R₇, -O-C(=X)-R₇,
-(CH₂)-O-C(=X)-R₇, -S-C(=X)-R₇, -(CH₂)-S-C(=X)-R₇, -NR₉C(=X)R₇, -(CH₂)-NR₉C(=X)R₇,
-NR₉NHC(=X)-R₇, -NR₉-OR₁₀, -(CH₂)-NR₉-OR₁₀, -SR₉, -S(=O)R₁₁, -S(=O)₂R₁₁, aryl, hetero-
cyclyl, aryloxy or heterocyclxy; wherein the aryl, heterocyclyl, aryloxy and heterocyclxy
radicals are unsubstituted or, depending upon the possibilities of substitution at the ring,
mono- to penta-substituted by substituents selected from the group consisting of OH, halo-
gen, CN, NO₂, C₁-C₁₂alkyl, C₃-C₈cycloalkyl, C₁-C₁₂haloalkyl, C₁-C₁₂alkoxy, C₁-C₁₂haloalkoxy,
C₁-C₁₂alkylthio, C₁-C₁₂haloalkylthio, C₁-C₆alkoxy-C₁-C₆alkyl, C₂-C₈alkenyl, C₂-C₈alkynyl,
C₂-C₁₂haloalkenyl, C₂-C₁₂haloalkenyloxy, C₂-C₁₂haloalkynyl, C₃-C₁₂haloalkynyoxy and
phenoxy;

or R₄ together with R₂ forms =O or =S;

or when p is 1, R₄ together with R₅ is a bond;

or, when p is 0, together with R₂ and R₆ is =N;

R₅ and R₆ independently of each other are H, C₁-C₁₂alkyl, -N₃, CN, NO₂, OH, SH,
halogen, halo-C₁-C₂alkyl, hydroxy-C₁-C₂alkyl, C₃-C₈cycloalkyl that is unsubstituted or substi-
tuted by from one to two methyl groups, C₃-C₈halocycloalkyl, C₁-C₁₂alkoxy, C₁-C₆alkoxy-
C₁-C₆alkyl, C₁-C₆alkoxy-C₁-C₆alkoxy, C₁-C₆alkoxy-C₁-C₆alkoxy-C₁-C₆alkyl, C₃-C₈cycloalkoxy,
C₁-C₁₂haloalkoxy, C₁-C₁₂haloalkylthio, C₂-C₈alkenyl, C₂-C₈alkynyl, C₂-C₁₂haloalkenyl,
C₂-C₁₂haloalkenyloxy, C₂-C₁₂haloalkynyl, C₃-C₁₂haloalkynyoxy, -P(=O)(OC₁-C₆alkyl)₂,

$-\text{CH}_2\text{P}(=\text{O})(\text{OC}_1\text{-C}_6\text{alkyl})_2$, $-\text{Si}(\text{OC}_1\text{-C}_6\text{alkyl})_3$, $-\text{N}(\text{R}_9)_2$, $-\text{O-N}(\text{R}_9)_2$, wherein the two substituents R_9 are independent of each other, $-\text{C}(=\text{X})\text{-R}_7$, $-\text{CH}=\text{NOH}$, $-\text{CH}=\text{NOC}_1\text{-C}_6\text{alkyl}$, $-\text{O-C}(=\text{X})\text{-R}_7$, $-\text{S-C}(=\text{X})\text{-R}_7$, $-\text{NR}_9\text{C}(=\text{X})\text{R}_7$, $-\text{NR}_9\text{NHC}(=\text{X})\text{-R}_7$, $-\text{NR}_9\text{-OR}_{10}$, $-\text{SR}_9$, $-\text{S}(=\text{O})\text{R}_{11}$, $-\text{S}(=\text{O})_2\text{R}_{11}$, $-\text{CH}_2\text{-S}(=\text{O})_2\text{R}_{11}$, aryl, aryloxy, benzyloxy, $-\text{NR}_9\text{-aryl}$, heterocyclyl, heterocycloxy, $-\text{NR}_9\text{-heterocyclyl}$, $-\text{CH}_2\text{-aryl}$, $-\text{CH}_2\text{-O-aryl}$, $-\text{CH}_2\text{-NR}_9\text{-aryl}$, $-\text{CH}_2\text{-NR}_9\text{-C}_1\text{-C}_2\text{alkyl}$, $-\text{CH}_2\text{-heterocyclyl}$, $-\text{CH}_2\text{-O-heterocyclyl}$ and $-\text{CH}_2\text{-NR}_9\text{-heterocyclyl}$; wherein the aryl, aryloxy, benzyloxy, $-\text{NR}_9\text{-aryl}$, heterocyclyl, heterocycloxy and $-\text{NR}_9\text{-heterocyclyl}$ radicals are unsubstituted or, depending upon the possibilities of substitution at the ring, mono- to penta-substituted by substituents selected from the group consisting of OH, $=\text{O}$, SH, $=\text{S}$, halogen, CN, NO_2 , $\text{C}_1\text{-C}_{12}\text{alkyl}$, $\text{C}_3\text{-C}_8\text{cycloalkyl}$, $\text{C}_1\text{-C}_{12}\text{haloalkyl}$, $\text{C}_1\text{-C}_{12}\text{alkoxy}$, $\text{C}_1\text{-C}_{12}\text{haloalkoxy}$, $\text{C}_1\text{-C}_{12}\text{alkylthio}$, $\text{C}_1\text{-C}_{12}\text{haloalkylthio}$, $\text{C}_1\text{-C}_6\text{alkoxy-C}_1\text{-C}_6\text{alkyl}$, $\text{C}_2\text{-C}_8\text{alkenyl}$, $\text{C}_2\text{-C}_8\text{alkynyl}$, $\text{C}_2\text{-C}_{12}\text{haloalkenyl}$, $\text{C}_2\text{-C}_{12}\text{haloalkenyloxy}$, $\text{C}_2\text{-C}_{12}\text{haloalkynyl}$, $\text{C}_3\text{-C}_{12}\text{haloalkynyoxy}$, phenoxy, methylenedioxy, NH_2 , $\text{NH}(\text{C}_1\text{-C}_{12}\text{alkyl})$, $\text{N}(\text{C}_1\text{-C}_{12}\text{alkyl})_2$ and $\text{C}_1\text{-C}_6\text{alkylsulfinyl}$; or

R_5 and R_6 are, together with the carbon atom to which they are bound, a five- to seven-membered ring, which may be saturated or unsaturated, and which may contain one or two members selected from the group consisting of O, NR_8 and S; and which is optionally substituted with one to three substituents selected from $\text{C}_1\text{-C}_{12}\text{-alkyl}$, CN, NO_2 , OH, halogen, halo- $\text{C}_1\text{-C}_2\text{alkyl}$, $\text{C}_3\text{-C}_8\text{cycloalkyl}$, $\text{C}_3\text{-C}_8\text{halocycloalkyl}$, $\text{C}_1\text{-C}_{12}\text{alkoxy}$, $\text{C}_1\text{-C}_6\text{alkoxy-C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{alkoxy-C}_1\text{-C}_6\text{alkoxy-C}_1\text{-C}_6\text{alkyl}$, $\text{C}_3\text{-C}_8\text{cycloalkoxy}$, $\text{C}_1\text{-C}_{12}\text{haloalkoxy}$, $\text{C}_1\text{-C}_{12}\text{alkylthio}$, $\text{C}_3\text{-C}_8\text{cycloalkylthio}$, $\text{C}_1\text{-C}_{12}\text{haloalkylthio}$, $\text{C}_2\text{-C}_{12}\text{alkenyl}$, $\text{C}_2\text{-C}_{12}\text{haloalkenyl}$, $\text{C}_2\text{-C}_{12}\text{haloalkenyloxy}$, $\text{C}_2\text{-C}_{12}\text{alkynyl}$, $\text{C}_2\text{-C}_{12}\text{haloalkynyl}$ and $\text{C}_3\text{-C}_{12}\text{haloalkynyoxy}$;

or when p is 1, R_5 together with R_4 is a bond;

or, when p is 0, R_6 together with R_2 and R_4 is $\equiv\text{N}$;

R_7 is H, OH, $\text{C}_1\text{-C}_{12}\text{alkyl}$, $\text{C}_1\text{-C}_{12}\text{haloalkyl}$, $\text{C}_2\text{-C}_{12}\text{alkenyl}$, $\text{C}_2\text{-C}_{12}\text{alkynyl}$, $\text{C}_2\text{-C}_{12}\text{haloalkenyloxy}$, $\text{C}_2\text{-C}_{12}\text{haloalkynyl}$, $\text{C}_3\text{-C}_{12}\text{haloalkynyoxy}$, $\text{C}_1\text{-C}_{12}\text{alkoxy}$, $\text{C}_1\text{-C}_{12}\text{haloalkoxy}$, $\text{C}_1\text{-C}_6\text{alkoxy-C}_1\text{-C}_6\text{alkyl}$, $\text{C}_1\text{-C}_6\text{alkoxy-C}_1\text{-C}_6\text{alkoxy}$, $\text{C}_2\text{-C}_8\text{alkenyoxy}$, $\text{C}_3\text{-C}_8\text{alkinyoxy}$, $-\text{N}(\text{R}_8)_2$, wherein the two R_8 are independent of each other, aryl, aryloxy, benzyloxy, heterocyclyl, heterocycloxy or heterocyclmethoxy; and wherein the aryl, aryloxy, benzyloxy, heterocyclyl and heterocycloxy radicals are unsubstituted or, depending upon the possibilities of substitution at the ring, mono- to penta-substituted by substituents selected from the group consisting of halogen, CN, NO_2 , $\text{C}_1\text{-C}_{12}\text{alkyl}$, $\text{C}_3\text{-C}_8\text{cycloalkyl}$, $\text{C}_1\text{-C}_{12}\text{haloalkyl}$, $\text{C}_1\text{-C}_{12}\text{alkoxy}$, $\text{C}_1\text{-C}_{12}\text{haloalkoxy}$, $\text{C}_1\text{-C}_{12}\text{alkylthio}$, $\text{C}_1\text{-C}_{12}\text{haloalkylthio}$, $\text{C}_1\text{-C}_6\text{alkoxy-C}_1\text{-C}_6\text{alkyl}$, $\text{C}_2\text{-C}_8\text{alkenyl}$,

C_2 - C_{12} haloalkenyl, C_2 - C_{12} haloalkenyloxy, C_2 - C_8 alkynyl, C_2 - C_{12} haloalkynyl and C_3 - C_{12} haloalkynyl;

R_8 is H, C_1 - C_6 alkyl that is optionally substituted with one to five substituents selected from the group consisting of halogen, C_1 - C_6 alkoxy, C_1 - C_6 alkoxy- C_1 - C_6 alkoxy, C_2 - C_{12} alkenyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} haloalkenyloxy, C_2 - C_{12} alkynyl, C_2 - C_{12} haloalkynyl, C_3 - C_{12} haloalkynyl-
oxy, hydroxy and cyano, C_3 - C_8 -cycloalkyl, aryl, benzyl or heteroaryl; wherein the aryl, benzyl and heteroaryl radicals are unsubstituted or, depending on the possibilities of substitution on the ring, mono- to trisubstituted by substituents selected from the group consisting of OH, halogen, CN, NO_2 , C_1 - C_{12} alkyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} haloalkoxy, C_1 - C_{12} alkylthio, C_2 - C_{12} alkenyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} haloalkenyloxy, C_2 - C_{12} alkynyl, C_2 - C_{12} haloalkynyl, C_3 - C_{12} haloalkynyl and C_1 - C_{12} haloalkylthio;

R_9 is H, C_1 - C_6 alkyl, C_1 - C_6 cycloalkyl, C_1 - C_6 alkoxy- C_1 - C_6 alkyl, C_1 - C_6 alkoxy- C_1 - C_6 alkoxy- C_1 - C_6 alkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} alkynyl, benzyl, aryl or heteroaryl;

R_{10} H, C_1 - C_6 alkyl that is optionally substituted with one to five substituents selected from the group consisting of halogen, C_1 - C_6 alkoxy, NO_2 , hydroxy and cyano, C_1 - C_{12} haloalkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} haloalkynyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} alkynyl, C_3 - C_8 -cycloalkyl, aryl, benzyl or heteroaryl; wherein the aryl, benzyl and heteroaryl radicals are unsubstituted or, depending on the possibilities of substitution on the ring, mono- to trisubstituted by substituents selected from the group consisting of OH, halogen, CN, NO_2 , C_1 - C_{12} alkyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} haloalkoxy, C_1 - C_{12} alkylthio, C_1 - C_{12} haloalkylthio, C_2 - C_{12} alkenyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} haloalkenyloxy, C_2 - C_{12} alkynyl, C_3 - C_{12} haloalkynyl and C_3 - C_{12} haloalkynyl;

R_{11} is H, C_1 - C_6 alkyl that is optionally substituted with one to five substituents selected from the group consisting of halogen, C_1 - C_6 alkoxy, hydroxy and cyano, $-N(R_9)_2$ wherein the two substituents R_9 are independent of each other, C_3 - C_8 cycloalkyl, C_3 - C_8 halocycloalkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} haloalkenyloxy, C_2 - C_{12} alkynyl, C_3 - C_{12} haloalkynyl, C_3 - C_{12} haloalkynyl-
oxy, aryl, benzyl or heteroaryl; wherein the aryl, benzyl and heteroaryl radicals are unsubstituted or, depending on the possibilities of substitution on the ring, mono- to trisubstituted by substituents selected from the group consisting of OH, halogen, CN, NO_2 , C_1 - C_{12} alkyl, C_1 - C_{12} haloalkyl, C_1 - C_{12} alkoxy, C_1 - C_{12} haloalkoxy, C_1 - C_{12} alkylthio, C_1 - C_{12} haloalkylthio, C_2 - C_{12} alkenyl, C_2 - C_{12} haloalkenyl, C_2 - C_{12} haloalkenyloxy, C_2 - C_{12} alkynyl, C_2 - C_{12} haloalkynyl and C_3 - C_{12} haloalkynyl;

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R_{12} is H, C_1 - C_6 alkyl, C_1 - C_6 cycloalkyl, C_1 - C_6 alkoxy- C_1 - C_6 alkyl, C_1 - C_6 alkoxy- C_1 - C_6 alkoxy- C_1 - C_6 alkyl, C_2 - C_{12} alkenyl, C_2 - C_{12} alkynyl, $-C(=O)C_1$ - C_6 alkyl, $-C(=O)OC_1$ - C_6 alkyl, $-SO_2C_1$ - C_6 alkyl, benzyl, aryl, heteroaryl;

X is O or S;

or, if appropriate, an E/Z isomer, E/Z isomer mixture and/or tautomer thereof, in each case in free form or in salt form;

with the proviso, that the group $R_6-[C(R_3)(R_5)]_p-C(R_2)(R_4)-[CH_2]_n-$, which is attached to the ϵ -position of the compound of the formula (I), is not $NC-CH_2-$ or $HOOC-CH_2-$ when m is 1 and the bond between atoms 22 and 23 is a single bond.

2. A pesticide which contains at least one compound of the formula (I) as described in claim 1 as active compound and at least one auxiliary.

3. A method for controlling pests wherein a composition as described in claim 2 is applied to the pests or their habitat.

4. A process for preparing a composition as described in claim 2 which contains at least one auxiliary, wherein the active compound is mixed intimately and/or ground with the auxiliary(s).

5. The use of a compound of the formula (I) as described in claim 1 for preparing a composition as described in claim 2.

6. The use of a composition as described in claim 2 for controlling pests.

7. A method according to claim 3 for protecting plant propagation material, wherein the propagation material or the location where the propagation material is planted is treated.

8. Plant propagation material treated in accordance with the method described in claim 7.